



POINT-OF-VIEW

CHANGES TO THE BOTANICAL CODE AND WHAT THEY MEAN FOR WESTERN NORTH AMERICAN BOTANY

The modern botanical code is the result of decisions and compromises made by numerous individuals and committees over the past several hundred years. Its purpose is to create a standard for the conventions applied to the naming of algae, fungi, and plants. The 18th meeting of the International Botanical Congress (IBC) took place in Melbourne, Australia during the summer of 2011, where several important amendments were made to the code. One change resulted in the renaming of the code itself. To reflect a more accurate understanding of the set of rules governed by the Nomenclature Section of the IBC and its voting body, the *International Code of Botanical Nomenclature (ICBN)* will now be known as the *International Code of Nomenclature for algae, fungi, and plants (ICN)* (McNeill and Turland 2011).

The Nomenclature Section of the IBC in Melbourne also ruled that new species diagnosis and/or descriptions may now be written in English. Previously, to validly publish a new name, a diagnosis (how the new plant differs from its close relatives) and/or description (a comprehensive summary of the characters) in Latin was required to introduce the taxa into science. Article 36 in the revised code states that as of January 1, 2012, publication of a new species does not have to be written in Latin, but can be replaced with English (Smith and Figueiredo 2011). Ultimately, the decision of whether to write the description in English or Latin rests with the journal or publisher (Knapp et al. 2011). This change will not affect the scientific naming of plants, which will still be done in Latin.

Articles 29, 30, and 31 of the updated code outline the use of online publishing as an accepted way to publish new plant names and name changes. Prior to this change, a printed version was required to validly publish a new species name. According to Article 29, an online publication accompanied by either an International Standard Serial Number (ISSN) or an International Standard Book Number (ISBN) in a PDF format will suffice (Knapp et al. 2011). The articles also list several recommendations such as depositing printed material of new names or name changes in libraries on several continents and publishing in journals that are archived in several online repositories. Article 30 states that electronic publishing will not be recognized if the publication date was before January 1, 2012, and indication of draft and final versions of publications should be

clear. Article 31 states that parallel publications of printed and online material must be treated as having the same date, and that the publication date should be clearly stated somewhere in the article. If the PDF format becomes outdated and another format becomes more widespread, the ICB allows the terms of best practice to conform to these changes. These updated methods and recommendations will help botanists publish and distribute new botanical information in a timely, standardized, and efficient manner.

The most publicized and controversial decision made by the Nomenclature section of the IBC was over the retypification of the genus *Acacia*, which has been shown to be polyphyletic and therefore in need of revision (Luckow et al. 2003). According to the code, if a genus is split, the type specimen may be changed if the split causes too much disruption and renaming of species. During the 2005 Vienna conference, the ruling was made to change the type specimen from *A. scorpioides* (L.) W. Wight (formerly *A. nilotica* Karst.) to *A. penninervis* Sieber ex DC. The retypification conserved 960 species of *Acacia*, and caused 160–170 to be placed in the separate genera including: *Acaciella*, *Senegalia*, and *Vachellia* (Luckow et al. 2005). For California botanists, our native catclaw (*Acacia greggii*) was renamed *Senegalia greggii* (Baldwin et al. 2012). The conservation of the genus allowed most of Australia's wattles to remain in *Acacia*, while acacias in Asia, the Americas, and especially Africa required name changes. Several botanists challenged the ruling, believing it to be unfair particularly to African botanists (Moore and Cotterill 2011).

These changes and revisions make publishing new species more efficient and accessible to the next generation of botanists. Publishing new names and name changes online, along with allowing new species descriptions in English, will help modernize the way botanists work. Although the changes made to *Acacia* were controversial, the conservation of the name was with the most speciose group in the former genus, and the change helps us better understand the complexity of this large group of trees and shrubs.

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LITERATURE CITED

BALDWIN, B. G., D. H. GOLDMAN, D. J. KEIL, R. PATTERSON, T. J. ROSATTI, AND D. H. WILKEN, (eds.). 2012. The Jepson manual: vascular plants of

- California, second edition. University of California Press, Berkeley, CA.
- KNAPP, S., J. MCNEILL, AND N. J. TURLAND. 2011. Changes to publication requirements made at the XVIII international botanical congress in Melbourne—what does E-publication mean for you? *Taxon* 60:1498–1501.
- LUCKOW, M., J. T. MILLER, D. J. MURPHY, AND T. LIVSHULTZ. 2003. A phylogenetic analysis of the Mimosideae (Leguminosae) based on chloroplast DNA sequence data. Pp. 197–220 in B. B. Klitgaard and A. Bruneau, (eds.), *Advances in Legume systematics, part 10. Higher level systematics*. Royal Botanical Gardens, Kew, U.K.
- , C. HUGHES, B. SCHRIRE, P. WINTER, C. FAGG, R. FORTUNATO, J. HURTER, L. RICO, F. J. BRETELER, A. BRUNEAU, M. CACCAVARI, L. CRAVEN, M. CRISP, A. DELGADO S, S. DEMISSEW, J. J. DOYLE, R. GREYER, S. HARRIS, P. S. HERENDEEN, H. M. HERNÁNDEZ, A. M. HIRSCH, R. JOBSON, B. B. KLITGAARD, J.-N. LABAT, M. LOCK, B. MACKINDER, B. PFEIL, B. B. SIMPSON, G. F. SMITH, M. SOUSA S., J. TIMBERLAKE, J. G. VANDER MAESEN, A. E. VAN WYK, P. VORSTER, C. K. WILLIS, J. J. WIERINGA, AND M. F. WOJCIECHOWSKI. 2005. Acacia: the case against moving the type to Australia. *Taxon* 54:513–519.
- MCNEILL, J. AND N. J. TURLAND. 2011. Major changes to the Code of Nomenclature—Melbourne, July 2011. *Taxon* 60:1495–1497.
- MOORE, A. AND F. COTTERILL. 2011. The Acacia retypification debate: perspectives of African amateur botanists. *Taxon* 60:858–859.
- SMITH, G. F., E. FIGUEIREDO, AND G. MOORE. 2011. English and Latin as alternative languages for validating the names of organisms covered by the International Code of Nomenclature for algae, fungi, and plants: the final chapter? *Taxon* 60:1502–1503.